

Technical Notes

• NATIONAL SOCIETY FOR BUSINESS BUDGETING •

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With this issue, we would like to salute the Philadelphia Chapter in its preparation for the National Society for Business Budgeting National Conference to be held May 20 and 21 in Philadelphia. The hard work of the members of that chapter assures the Society of another fine and outstanding Conference. It is the opinion of the Editor that this work shall be rewarded by an overwhelming and responsive attendance by Society members and guests.

Two chapters have contributed to this issue. Indianapolis Chapter President, E. F. Hagel, has forwarded a paper on "Budgeting for Engineering Costs" prepared by Clyde Seeley, P. R. Mallory Company, in conjunction with Bob Sutton, Chairman of the Research Committee, Indianapolis Chapter. Charles Pfahler, Technical Notes Contributing Editor from Philadelphia, has come through with an interesting article presenting a new method of appraising company segment (division, department, etc.) productivity. The article is a report rendered to the Sun Oil Company by Jim G. Ashburne, Assistant Professor of Accounting, University of Texas, and is entitled "A Method of Reporting Accounting Data For Purposes of Planning and Controlling Performance." Both articles are well written and present some interesting ideas. It is suggested that they be read carefully and with much thought.

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BUDGETING FOR ENGINEERING COSTS

Clyde Seeley, P. R. Mallory Company

Bob Sutton, E. C. Atkins & Company

Much of the past interest and effort of the concept of budgeting has been concerned with manufacturing costs. However in the competitive markets of today other areas of cost are worthy of attention. Among these areas is the effort concerned with product development and improvement.

WHY BUDGET ENGINEERING COSTS

It is basic to consider that the profit motive is still the driving force behind industry today. This point, obvious as it may seem to be, is often overlooked or lost in the anxiety over our immediate problems. The engineering mind, technically trained as it may be, often overlooks the simple economics that must function properly to make funds available to support and perpetuate its purposes. Do not assume, therefore, that everyone completely understands that the objective of your company is to operate profitably. Discuss the point freely, get agreement, and you will find firm footing invaluable for later use in budget work. Industry's desire and need for profits unquestionably is a reason for budgeting engineering costs.

CONTROL ENGINEERING COSTS

In the search for profits it is generally agreed that control of costs would have a most marked effect on possible attainment. Take a good look at the charges

originated by the engineering department. Do they need Control? It is a rare situation indeed that could not be improved by good expense control.

There are, however, some considerations that may be termed peculiar to the engineering function. These considerations emanate from the mental makeup of the engineers themselves. Many of them operate in a situation where solutions, not costs, constitute the main objective. It is urgent that the scientist not be burdened with problems of financial controls when the successful solution to a product promising millions in profit should occupy his total thinking.

Problems of expense control should be directed to the administrator rather than the producing engineer. A prudent and judicious reference to items of real importance that effect the outcome of the entire planned expense should be the criterion on which to place the emphasis. Control properly applied and directed will yield results even in the engineering effort.

MORE ACCOMPLISHMENT FOR LESS COST

Many of us are vitally concerned with the productivity of shop workers. But what about the performance of the engineering phase of the business? Is it not reasonable to expect results worthy of the cost expended for this purpose? Then why not find a way to help evaluate actual accomplishment against expected performance? Successfully carried out, such a plan would result in better engineering for less cost.

DEVELOP NEW PRODUCTS

The effective engineer is a dreamer. That fact is an asset to any business but especially to one which wishes to thrive and grow. However, there must be a portion of practical business sense injected into such a situation. Lacking this there is a great danger of pursuing an idea far beyond any reasonable hope of solution. Many ideas are explored in research work only to be found impractical for commercial purposes; others, too advanced for today's economy must be shelved until a more opportune time; still others, and they are in the vast majority, finally result in such notorious failure that the total effort may be considered a horrible waste. How fortunate that a few ideas really do become commercially practical and that resultant profits permit further study of new ideas.

Since it is likely that new products are vulnerable to failure, any plan that would help diminish unnecessary losses would be a welcome accomplishment.

IMPROVE EXISTING PRODUCTS

Profits from products already being exploited commercially may decline and become decadent if the product fails to keep pace with competition and consumer demands. It is imperative that the stature of existing products be maintained and improved if going profits are to be enjoyed by the producer. Costs related to this engineering effort may astonish management when presented in the proper way.

HOW MUCH TO SPEND FOR ENGINEERING

Someone in management will certainly bring up the question of how much should be spent for engineering. Barring a flat and highly arbitrary per cent of income grasped at in desperation, a practical suggestion as to how much the business can afford may well set the expense level. Modern day products delve into the basic sciences so deeply that competitive situations demand a staff complement embracing many lines of knowledge not necessarily compatible with management's overall thinking. As a result, industry is being forced into spending tremendous sums to satisfy this demand. The expense level for any company surely must be regulated

and aligned with ability to support the effort and evaluated against the promise of rewards of the future.

ACCEPTING PHILOSOPHY THAT BUDGETING ACHIEVES OBJECTIVES

We have explored some of the reasons why engineering costs might yield better results when subjected to control by use of a budget system. A list of reasons compiled for your company would surely uncover additional points. Regardless of the scope of the problem, the theory that budgets help achieve better results in the engineering program must be definitely proven. Once proven by actual demonstration there should be little difficulty in securing final approval to proceed with the plan.

DEVELOP THE BUDGET PLAN

In order to demonstrate the merits of the budget, a prototype of the actual budget should be prepared. In this way the objectives that must be reached can be discussed and the prototype plan adjusted to fulfill all requirements. Broadly speaking, the best budget plan would be the plan that continually checks the tendency of the engineering effort to spend more than was planned and to highlight those items falling short of expected accomplishment.

PRESENT PLAN TO TOP MANAGEMENT

When the details of the budget plan appear to fulfill all requirements, the entire package should be presented to top management for final approval. Only after approval is secured and complete accord from all sources is reached can there be unanimity of thought and action in carrying out the actual principles developed by the budget. It is also a must to carry the approved plan down through the lower echelons of management to the spot where the actual budget will be developed.

DEVELOP THE ACTUAL BUDGET

In analyzing the operating costs of the engineering development, much of the function will tend to parallel the familiar pattern used for costing manufacturing operations. I refer to the cost of payrolls which may be compared to direct and indirect labor of the factory according to the particular interpretation and treatment practiced.

Additional costs will be found for materials used as well as many indirect items such as supplies, maintenance, utilities, small tools, etc.

The end product of the engineering effort can be likened to a production work order. The purpose of the work order is to sum up the cost incurred in performing a specific task. A remaining problem in cost determination would be to apply payrolls, material costs, and indirect costs to work orders, or to use a term more acceptable to engineers--to projects. This can easily be accomplished by expressing the direct portion of the payroll and attendant indirect costs as a rate per man hour. From reports of man hours assigned to projects the cost per hour will develop this portion of the project cost. The remaining factor of materials or other direct charges to projects can be developed from a requisition basis.

Considering that cost can be correctly applied to specific projects presents the opportunity for further use of projects. For example, consider the possibility of describing the purpose of the project so that evaluation as to its merits can be a subject for management action. It is a much simpler and direct approach for management to work from a statement of the projects than from payroll and other statistical amounts. Since approval of the budget and its subsequent control to this plan is the

ultimate objective, the presentation for approval of the actual budget should specifically answer such questions as:

- A. What products will benefit by this expenditure?
- B. Is this project of a research nature?
- C. Does the project benefit most of those products already in production?
- D. What are the probabilities of success?
- E. What is the extent of capital required?
- F. Approximately when will the project be completed?
- G. What is the approximate net gain estimated for the project?

The budget should be reduced to writing in order that proper and complete comparison with the actual results can readily be made. In the actual preparation particular attention and care should be used to insure that the budget and actual results will compare like points. An interesting by-product of this approach will be the education of those responsible for performance against the budget. Many good points conducive of better control will be brought out for open discussion and very possibly will reach a satisfactory solution.

CHECK ACTUAL RESULTS AGAINST BUDGET

Comparison of actual performance against the planned budget should be the highlight of the entire program. The timeliness and accuracy of comparative reports should add much to the overall effort by instilling confidence in those responsible for performance. Above all there should be a round table discussion of all points showing a variation from the budget. It will be a fruitful effort that has as its main goal to analyze, explain, and enforce the plan of action approved by top management.

FOLLOW UP WITH IMPROVEMENTS

Periodic reports and discussions will help point out how well the original objectives are being attained. In a fast moving business and economy, changed conditions sometimes cause original concepts to be materially changed. As a consequence it is important that the entire program be closely watched from the standpoint of improvements that will strengthen the results of the engineering effort. An example of this might be to step up the frequency of reporting from a monthly to a weekly basis on items that are particularly troublesome.

A good presentation and one that usually meets with the thinking of most engineers is to construct actual events in graph or chart form. Confined to the progress of specific projects, such presentation will quickly analyze where funds are being spent as well as raise questions as to whether the effort should be diverted to other urgent conditions.

CONCLUSION

Engineering efforts constitute the life blood of our every day economy. That economy must show progress if industry is to prosper. Those dependent on this prosperity for higher standards of living most assuredly will see to this by constant demands. The strong will meet these demands by astute application of available funds. Budgeting can and will find its place in this effort for there is boundless enthusiasm in the hearts and minds of industry's talent to achieve for tomorrow that which is beyond reach today.

**A METHOD OF REPORTING ACCOUNTING DATA
FOR PURPOSES OF PLANNING AND CONTROLLING PERFORMANCE
(With Reference to the Accounts of an Integrated Oil Company)**

By Jim G. Ashburne, Assistant Professor of Accounting, Univ. of Texas, Austin, Texas

GENERAL

1. In scheduling and appraising operations, a measurement of the net effect on working capital assets used is proposed, rather than theoretical net income before income taxes. Objectives and features of this concept are as follows:-
 - a. The objective of a segment is to generate working capital assets, or to consume a minimum of such assets in fulfilling its mission.
 - b. Executive and supervisory managers are judged by results achieved, for only revenues and costs which can be traced to the operation for which they are responsible are credited or charged to them. In general, the lower the level of management, the fewer the charges; prorations are practically eliminated.
 - c. All levels of management think of control as a means of maximizing the liquid capital available to the company.
 - d. The fact of interdependence -- of working for a common goal -- is fostered and a more realistic picture of relative importance of segments is obtained.
 - e. Thinking in terms of accounting net income is concentrated at the level of general management where it is relevant.
 - f. Traced costs may be broken into those which can be controlled by the particular executive or supervisor and those not subject to his control but in any case, he is not loaded with portions of expenses subjectively determined and allocated.
 - g. Internal performance reports may be prepared with greater dispatch and the lag between the event and managerial recognition and action will be reduced.
2. Revenues are credited to the segment producing them.
 - a. Production (leases, fields, districts, regions, and divisions) with value of oil or gas lifted.
 - b. Manufacturing (gas plants and refineries) with realizable value of products made available for shipment or sale.
 - c. Marketing (districts, regions, and divisions) with a standard margin deducted in (b).
 - d. "Productive" service departments where an established price for the service is available (steam plants, maintenance, tabulating) and where their service can be charged to other segments on a job basis -- value of jobs done.
 - e. Other service departments -- revenue (or contra expense) is considered to be the amount by which income taxes are reduced by reason of deductible departmental expenses.
3. Only expenses which can be traced to the segment and which represent current outlays of assets are charged to it.

APPRAISING SEGMENT PRODUCTIVITY THROUGH ACCOUNTING REPORTS

Consistent application of any reporting method permits some kind of comparison of performance of company's segments. Similarly, management can effect some degree of control irrespective of the amount or kind of data supplied to it -- or even without any accounting information. The ideal of statistical reporting is to promote the greatest degree of control with the minimum data and at the lowest possible cost. The comptroller's battle is to reduce the volume without impairing the effectiveness of management. And, incidentally, while management puts the pressure on the comptroller to reduce costs, often it is management itself which prevents reductions in the volume or cost of accounting work.

Company management at present plans and appraises segment performance, as well as that of the integrated company, on the basis of "net income before taxes." Use of this traditional measure reflects the assumption that company segments should be judged as independent enterprises and the further assumption that income taxes are distributions of income rather than costs of doing business. The position taken herein is that the first is questionable and the second, false.

In the first place, a segment of an integrated company cannot earn a net income. It is not fully equipped to do so. In acknowledgement of this fact, internal profit analysis are conspicuously labelled "theoretical" net income, or profit and loss, reports. While there is no harm in indulging fictitious concepts which increase utility or comprehension, there is no particular virtue in perpetuating a fancy when a more realistic measure, with sounder premises, is at hand.

CONTRIBUTION TO OR DRAIN ON WORKING CAPITAL ASSETS

This measure is difficult to name if confusion with customary accounting terminology is to be avoided. The actuality of segment interdependence is clear, however. Net income, in the accounting sense, cannot be earned by a segment of an integrated corporation, but only by the corporate entity. True, the accounting entity concept is flexible and can be interpreted to rationalize the orthodox net profit analysis for segments which have counterparts operating as independent enterprises. It seems more accurate, however, if the concepts used describe what is. The truth of corporate integration is that while the operations and organization are broken down into compartments where specialization makes for efficiency, something is reserved for general management, and each segment is furnished with something less than it would have as a separate enterprise.

The value of having management at all levels thinking in similar patterns is real and significant. This is perhaps the best argument for "net income" reporting, in fact. The measure suggested here, however, seems to guarantee the benefits obtained from consistent thought patterns and at the same time eliminate the element of artificiality present in "net income" thinking. It is readily adjusted to yield a net income figure whenever net income is relevant to the particular purpose or use of the analysis.

The best name for the measure seems to be "net contribution to" or "net drain on working capital assets." The use of "treasury" or "working capital" alone causes some confusion because of accounting definitions. "Operating assets" is sometimes used, as is the accounting caption "current assets."

The concept represented is that an enterprise has two capital funds:

1. A more or less fixed fund which is tied up in facilities necessary to a given economic operation and useful for relatively long periods, and
2. A circulating fund required by the economics of employing these facilities to create goods or services.

The second fund is of more immediate concern to management. From this fund cash must be obtained to meet the financial obligations to employees, creditors, and owners, as well as to acquire the materials and services incident to production and distribution. In recent years, corporate management has expected this fund to grow at such a rate that transfers can be made to the fixed fund to permit replacement of uneconomic facilities and expansion of plant capacity.

The continuing importance of the size and liquidity of this circulating fund is such that all members of management should be aware of the impact which their function has on the growth of this circulating capital. Their plans should be pointed toward the optimum results with respect to working capital assets and their perform-

ance judged on the basis of actual effect on these same assets. Each employee, in fact, should have this consciousness of working capital assets.

COMPARISON OF "NET INCOME" AND "NET CONTRIBUTION" ANALYSIS

Apparently, it is a similar objective which leads to the "net income" analysis for appraising segments. "Net contribution" analysis coincides with "net income" analysis down to a point.

REVENUE

The measurement of the gross contribution or revenue, of a segment is the same for both methods. Any segment which produces goods or services or adds to the value of product theoretically has revenue. As a practical matter, ease of valuing the product or the increase determines the extent to which revenue is actually credited to the segment.

The production division poses no particular problem, for the exchange value of a barrel of crude or Mcf of gas is available in the form of a posted price. The value added by the manufacturing division can be measured, too, for competitive prices or contract prices are established for most products of refinery and gas plant processes. Marketing divisions sell products at established prices. The method used by the company for distinguishing marketing and manufacturing revenue is sound and precise enough for all practical purposes.

Service departments and administrative functions present a problem. When the value of the product or service performed can be readily ascertained by reference to alternative purchase of the same service from outside organizations, revenue can be measured and credited to the segment. Otherwise, the management objective becomes the unilateral one of diminishing the drain on working capital assets.

In only one aspect does the revenue measurement of the two methods differ. The use of "net income before tax" in performance reports implies, as was stated earlier, that income taxes are conceived of as a distribution of income rather than a cost of doing business. In view of the fact that every revenue dollar, regardless of source, is subject to an income tax charge and because the charge is material and apparently will continue to be so, such a concept seems to cultivate dangerous habits in managerial thinking. Most decisions have important tax aspects, and management should be much more conscious of tax implications than of theoretical net income consequences. To incorporate tax consciousness in the regular reporting procedures and in their normal interpretation, the "net contribution" analysis recognizes the tax effect of all revenues and all outlays and deductible expenses. Revenue-producing departments bear the income tax deduction before showing a net contribution to working capital assets. Even service departments derive a revenue (or a reduction of expense) by virtue of providing expense items which may be deducted in computing income tax liability. Any deduction admissible for tax purposes, even though it does not occasion the expenditure of current working capital assets, reduces the amount of assets dedicated to payment of income tax. Instead of yielding new revenues, they decrease the outflow of cash for taxes, and company working capital is greater to that extent.

A segment of an integrated company can contribute to the company's circulating capital, therefore, by:

1. making new economic goods or services available for use, as in producing operations, or
2. adding to the exchange value of economic goods owned or acquired by the company, as in gas plant and refinery operations, or

3. furnishing income tax deductions and thereby reducing the outlay for payment of taxes.

COSTS AND EXPENSES

Expense reporting under the "net contribution" concept differs from that found in analyses oriented to and dictated by conventions of financial accounting. Accounting "net income" is a residual which purports to show the number of dollars of revenue which may be distributed, at the discretion of ownership or trustees, without impairing the invested capital. Whether it should continue to reflect distributable earnings or should be converted to a measure of real wealth is a moot question which is not relevant to the discussion of controlling performance. What is alleged here is that accounting net income is not the critical figure for comparing segment performance; it is instead a measure of accretion to the composite corporate entity, useful in dividend decisions and other distribution problems.

"Net income before tax" is neither fish nor fowl: it is inferior to both accounting net income and net contribution. It disregards a significant prior claim upon corporate assets (income tax) and thus falls short of reflecting accounting net income. On the other hand, it recognizes certain accounting conventions which take it beyond net contribution and distorts the picture of comparative profitability as follows:

To compute the net contribution or drain on working capital assets, only current outlays are deducted from segment revenues. Accounting charges which do not require funds (depreciation, depletion, and amortization) are reflected in performance reports only in the income tax expense, which, having been computed according to tax law, consequently is smaller by virtue of the deduction of these capital charges.

These so-called expenses have no effect whatsoever on the inflow of revenues, or the quantity of working capital assets subject to control and management. When the problem is that of determining the size of the dividend distribution, the orthodox net income analysis is appropriate. In the regular internal reports, management's attention is centered on the size of the circulating capital fund and the effect of decisions on this fund.

Finally, the reader must understand that out-of-pocket expenses have two other dimensions which must be taken into consideration. The first of these dimensions is traceability.

The nature of expenses and costs is such that some items can be traced to the smallest segment and to the individual product; by far the majority of items can be traced only part of the way -- to departments but not to sections, to divisions but not to departments, to functions but not to divisions.

Now, absorption cost procedure requires that each cost element be forcibly carried to the smallest unit and ultimately to products. Actually, all organizations shrink from the complete effectuation of this program and exclude some or many items to which they refer as administrative or overhead. But orthodox internal reporting reflects a welter of allocations and assignments often made just to carry out the spirit of absorption-cost law -- to make each segment bear its "fair share."

Much of this exorcising is waste motion insofar as control of performance is concerned. Except for purposes of pricing, most allocations are unnecessary. Use of them for pricing is itself based upon the questionable premise that cost, thus artificially developed, is a primary factor in setting prices. Even where this reasoning is accurate, product cost analysis has limited usefulness in controlling operations.

Again, "net contribution" analysis respects the actual interdependence and inde-

pendence of segments. The integrated company may be likened to a nest of boxes, each of which may itself be nested. The bigger the segment, the more it resembles a self-sufficient enterprise, but there is actually only one such -- the integrated company. It may be appraised by the net income it produces. The components, however, should be appraised on the basis of revenues and costs traceable to them, not on the basis of arbitrary charges, especially arbitrary charges which cannot be controlled by supervisors of the particular component. The hypothetical question "What would the segment have made (or cost) if it were a separate business?" is academic, and yet, most accounting reports attempt to answer it. Here we find businessmen who pride themselves on practicality dealing with a highly theoretical measure.

The "net contribution" analysis attempts to set out the answer to the question "What did this segment add to (or take from) the funds subject to reinvestment or available for liquidating the company debt?" The aim is to show the benefit accruing to the integrated company by virtue of carrying out each operation.

ILLUSTRATIVE REPORTS

To illustrate the reporting method, condensed reports using hypothetical figures are presented below.

The company income statement would appear something like Exhibit 1.

EXHIBIT 1.

U. S. OIL COMPANY INCOME STATEMENT MONTH OF AUGUST, 1953

| | | <u>\$000</u> |
|--|------------|--------------|
| Additions to Working Capital Assets: | | |
| Production Division | | xxx |
| Manufacturing Division | | 2,676 |
| Marketing Division | | xxx |
| Transportation Services | | xxx |
| Other | | <u>xxx</u> |
| Gross Increase in Working Capital Assets | | xxx |
| Expenditures of Working Capital Assets not traceable to Divisions and not capitalized: | | |
| Administrative Department (detailed by sub-departments) | xxx | |
| Interest | <u>xxx</u> | <u>xxx</u> |
| Net Increase in Working Capital Assets | | xxx |
| Accounting Charges not affecting Working Capital Assets | | |
| Depreciation, Depletion, and Amortization | xxx | |
| Abandonments | <u>xxx</u> | <u>xxx</u> |
| Net Income for the month | | <u>xxx</u> |

The supporting schedule for manufacturing is outlined to illustrate the report to be used at the divisional level.

SCHEDULE A

U. S. OIL COMPANY MANUFACTURING DIVISION NET CONTRIBUTION TO WORKING CAPITAL ASSETS MONTH OF AUGUST, 1953

| | <u>\$000</u> |
|--------------------------------------|---------------------------|
| Additions to Working Capital Assets: | |
| Refinery A | 1,074 |
| Refinery B | <u>1,868</u> ^a |
| Gross | 2,942 |

Expenditures of Working Capital Assets not traceable to refineries:

| | | |
|--|------------|--------------|
| Home Office Administration | 151 | |
| Research and Development | 303 | |
| Other | 100 b | |
| | <u>554</u> | |
| Income Tax Credit | 288 | 266 |
| Net Contribution to Working Capital Assets | | <u>2,676</u> |

Memo:

Accounting charges not affecting Working Capital Assets:

| | | |
|---|--|--------------|
| Depreciation, Depletion, and Amortization | | 615 |
| Other | | <u>xxx</u> |
| Total | | <u>615</u> |
| Theoretical Net Income | | <u>2,061</u> |

a. Approximated by using ratio of contribution and theoretical net income before tax of refinery A (February, 1953).

b. Amount of depreciation in this figure not known.

The report for each refinery supports the entries in the divisional report but includes only traceable expenses for which the refinery manager is accountable.

SCHEDULE A-1U. S. OIL COMPANY
REFINERY ANET CONTRIBUTION TO WORKING CAPITAL ASSETS
MONTH OF AUGUST, 1953

| | | |
|--|--------------|---------------|
| | | <u>\$000</u> |
| Additions to Working Capital Assets: | | |
| Products at net-back value | | 19,354 |
| Expenditures of Working Capital Assets: | | |
| Crudes | 12,880 | |
| Oil Storage | 157 | |
| Other Charge Stocks | 1,171 | |
| Labor, etc. | <u>3,309</u> | <u>17,517</u> |
| | | 1,837 |
| Income Tax Charge | | |
| Brought Down | 1,837 | |
| Depreciation, Depletion, and Amortization | <u>369</u> | |
| Taxable @ 52% | <u>1,468</u> | <u>763</u> |
| Net Contribution to Working Capital Assets | | <u>1,074</u> |

Memo:

Management Charges:

| | | |
|---|-----------|------------|
| Home Office Administration | 121 | |
| Research and Development | 242 | |
| Other | <u>80</u> | <u>443</u> |
| Net Contribution after Management Charges | | <u>631</u> |

Refinery operations reports are supported by schedules for each process or plant. For example, two plant reports are exhibited to illustrate variations in the manner of presenting data.

SCHEDULE A1-9U. S. OIL COMPANY - REFINERY A
PLANT 9 - AUGUST, 1953

| | | <u>\$000</u> |
|--|----------|--------------|
| Working Capital Assets Produced: | | |
| Product Yield at net-back value | | 806 |
| Charge Stocks at net-back value | | <u>730</u> |
| Value Added | | 76 |
| Expenditure of Working Capital Assets (detailed) | | <u>30</u> |
| Income Tax Charge on Revenue | 46 | 46 |
| Less Depreciation, Depletion, and Amortization | <u>2</u> | |
| Taxable @ 52% | 44 | <u>23</u> |
| Net Contribution to Working Capital Assets | | <u>23</u> |

SCHEDULE A1-15PLANT 15 - AUGUST, 1953

| | | <u>\$000</u> |
|---|------------|--------------|
| Additions to Working Capital Assets | | 17 |
| Expenditures of Working Capital Assets: | | |
| Charge Stocks | 15 | |
| Expenses (detailed) | <u>257</u> | <u>272</u> |
| | | (255) |
| Income Tax Credit | | |
| Brought Down | (255) | |
| Add Depreciation, Depletion, and Amortization | (3) | |
| Credit of 52% | (258) | <u>134</u> |
| Net Drain on Working Capital Assets | | <u>121</u> |

The operations may be combined on a product basis to the extent that runs and costs can be traced to products. The illustrative schedule assumes traceable items. It should be understood that this is a supplementary analysis.

SCHEDULE A1-aU. S. OIL COMPANY - REFINERY A
NET CONTRIBUTION OF WORKING CAPITAL ASSETS
FROM GASOLINE OPERATIONS
MONTH OF AUGUST, 1953

| | | <u>\$000</u> |
|---|--------------|---------------|
| Additions to Working Capital Assets | | 13,899 |
| Expenditures of Working Capital Assets: | | |
| Crudes | 9,123 | |
| Storage | 111 | |
| Other Materials | 1,087 | |
| Labor and Other Expenses | <u>2,206</u> | <u>12,527</u> |
| | | 1,372 |
| Income Tax Charge | | |
| Brought Down | 1,372 | |
| Less Depreciation, Depletion and Amortization | <u>246</u> | |
| Taxable @ 52% | 1,126 | <u>586</u> |
| Net Contribution to Working Capital Assets | | <u>786</u> |

Administrative departments would be analyzed as follows, except in greater detail.

U. S. OIL COMPANY
ADMINISTRATIVE - PURCHASING DEPARTMENT
NET DRAIN ON WORKING CAPITAL ASSETS
MONTH OF AUGUST, 1953

| | | |
|---|-----------|------------|
| | | \$000 |
| Expenditures of Working Capital Assets | | 495 |
| Income Tax Credit: | | |
| Brought Down | 494.7 | |
| Add Depreciation, Depletion, and Amortization | <u>.7</u> | |
| | 495.4 | 258 |
| Net Drain on Working Capital Assets | | <u>237</u> |

A great advantage of net contribution analysis is that reports reflect people, not technical functions with divided responsibilities. They are additive; reports are combined to correspond with the organization chart. They permit costs to appear at the appropriate level of management.

A further analysis, not illustrated, may be introduced into the performance reports to reflect the other dimension of costs mentioned earlier -- controllability. This simply requires a division of expenditures into two sections of the control report:

- A. Those which can be controlled by the supervisor and
- B. Those which are traceable to the operation but not controllable by its supervisor.

"Net income" analysis has the support of precedent and habit. It has some logical defense. "Net contribution" analysis, however, seems to portray truth -- to describe the actual situation -- and should be even more useful to operating management than the analysis now set before them. It is not a radical departure, and the change-over should be painless and of short duration. It is compatible with break-even analysis, which is of increasing interest to industrial management.

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